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Remarks

This application has been reviewed in light of the nonfinal Office Action of September 2, 2009. Claims 1-21 are pending. Claims 1-12 are allowed. claims 16 and 18 are objected to, and claims 13-15, 17, and 19-21 are rejected. In response, claims 16 and 18-20 are amended, and the following remarks are submitted. Reconsideration of this application, as amended, is requested.

Objected-to claims 16 and 18 are rewritten in independent form, and are now believed to be allowable.

Ground 1. Claims 13-14 are rejected under 35 USC 102 as anticipated by Jackson US Patent 5,438,366. Applicant traverses this ground of rejection.

The following principle of law applies to sec. 102 rejections. MPEP 2131 provides: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the ... claim. The elements must be arranged as required by the claim..." [citations omitted] This is in accord with the decisions of the courts. Anticipation under section 102 requires 'the presence in a single prior art disclosure of all elements of a claimed invention arranged as in that claim.' Carella v. Starlight Archery, 231 USPQ 644, 646 (Fed. Cir., 1986), quoting Panduit Corporation v. Dennison Manufacturing Corp., 227 USPQ 337, 350 (Fed. Cir., 1985)

Thus, identifying a single element of the claim which is not disclosed in the reference is sufficient to overcome a Sec. 102 rejection.

Claim 13

Claim 13 recites in part:

"the detector subelements are sized responsive to the blur diameter".

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The explanation of the rejection references col. 4, lines 36-41 of Jackson as setting forth this limitation. The cited portion of Jackson has no such disclosure. Jackson states,

"The size of the annular region 32 depends upon the geometrical arrangement of the filter 24 and the lens 16 relative to the image sensor. In Fig. 1, the geometry is chosen such that the blur pattern 31 equally covers four adjacent photosites 40, 42, 44, and 46..."

The "geometry" of the second quoted sentence refers to the "geometrical arrangement of the filter 24 and the lens 16 relative to the image sensor", stated in the first quoted sentence. This language indicates that the filter 24 and the lens 16 may be moved, but there is no disclosure that the size of the photosites is changed responsive to the blur diameter as recited in claim 13.

Claim 14

Claim 14 incorporates the limitations of claim 13, and is allowable over the ground of rejection for the reasons indicated in relation to the discussion of claim 13.

Additionally, claim 14 recites in part:

"the detector subelements are square in plan view,"

Jackson does not disclose in text that the photosites are square in plan view. The explanation of the rejection refers to Figs. 1-3 of Jackson as providing this disclosure. Applicant disagrees. First, Figures 1-3 are not plan views, and cannot show the features of the photosites in plan view. Second, Figures 1-3 are schematic drawings. Schematic drawings may not be used as the basis for asserting specific geometrical relations.

Ground 2. Claims 17 and 19-20 are rejected under 35 USC 102 as anticipated by Vock US Patent 6,320,173. Applicant traverses this ground of rejection.

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Claims 17, 19

Claim 17 recites in part:

“cooperatively analyzing the output signals from at least two spatially adjacent array subelements

to establish a data set reflective of an extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent array subelements, and

to reach a conclusion from the data set as to a location of the image of the feature on the segmented array.”

The explanation of the rejection (Office Action, page 3, lines 3 et seq.) asserts that this limitation is disclosed in Vock at col. 3, lines 13-25 and col. 7, lines 33-40. At these two locations, Vock discusses the hardware used in his system for tracking golf balls. Vock describes a high-speed camera system and the use of digital electronics, but does not discuss how the digital electronics works. Neither of these sections of Vock discusses any analysis of the information, and there is certainly no mention of any cooperative analysis of the output signals. There is no disclosure of data sets, no disclosure of establishing the extent to which output signals responsive to the image of the feature are produced from exactly one or from more than one of the adjacent array subelements, and no disclosure of the use of the data set to reach a conclusion from the data set as to a location of the image of the feature on the segmented array.

Claim 20

Claim 20 incorporates the limitations of claim 17 and is therefore patentable over Vock as well. Additionally, claim 20 recites:

“providing a two-dimensional segmented array formed of a pattern of square array subelements, wherein four of the square array subelements meet at an intersection point, and wherein the step of forming an image includes the step of

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forming the image having a diameter of one blur diameter."

The explanation of the rejection references col. 7, lines 33-40 and Figures 6A-6B. There is no disclosure in Vock of blur diameters or one blur diameter, or any concept of blur diameter.

As discussed in para. [0034] of the present application, "In all cases, each point in the scene is imaged as a blur spot. The diameter of this spot is referred to as a 'blur diameter', and is a characteristic of the optics system 22." The blur diameter is related to the apparent size on the detector of a point in the scene, and there is no mention of that concept in Vock.

The Examiner is attempting to read something of this concept into Vock by referring to the concept of blur diameters from the present application. No one reading Vock without knowledge of the present application will find any disclosure or concept of blur diameter in Vock.

Ground 3. Claim 15 is rejected under 35 USC 103 over Jackson '366 in view of Watanabe US Patent 6,522,356. Applicant traverses this ground of rejection.

MPEP 2142, under ESTABLISHING A PRIMA FACIE CASE OF OBVIOUSNESS, provides: "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. [citations omitted]. See MPEP para 2143-2143.03 for decisions pertinent to each of these criteria."

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First requirement--there must be an objective basis for combining the teachings of the references

The first of the requirements of MPEP 2142 is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings". The present rejection is a sec. 103 combination rejection. To reach a proper teaching of an article or process through a combination of references, there must be stated an objective motivation to combine the teachings of the references, not a hindsight rationalization in light of the disclosure of the specification being examined. MPEP 2142, 2143 and 2143.01. See also, for example, In re Fine, 5 USPQ2d 1596, 1598 (at headnote 1) (Fed.Cir. 1988), In re Laskowski, 10 USPQ2d 1397, 1398 (Fed.Cir. 1989), W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 311-313 (Fed. Cir., 1983), and Ex parte Levengood, 28 USPQ2d 1300 (Board of Appeals and Interferences, 1993); Ex parte Chicago Rawhide Manufacturing Co., 223 USPQ 351 (Board of Appeals 1984). As stated in In re Fine at 5 USPQ2d 1598:

"The PTO has the burden under section 103 to establish a prima facie case of obviousness. [citation omitted] It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."

And, at 5 USPQ2d 1600:

"One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

Following this authority, the MPEP states that the examiner must provide such an objective basis for combining the teachings of the applied prior art. In constructing

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such rejections, MPEP 2143.01 provides specific instructions as to what must be shown in order to extract specific teachings from the individual references:

"Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention when there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

* * * * *

"The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)."

* * * * *

"A statement that modifications of the prior art to meet the claimed invention would have been 'well within the ordinary skill of the art at the time the claimed invention was made' because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings of the references. Ex parte Levengood, 28 USPQ2d 1300 (Bd.Pat.App.& Inter. 1993)."

Here, there is set forth no objective basis for combining the teachings of the references in the manner used by this rejection, and selecting the helpful portions from each reference while ignoring the unhelpful portions. An objective basis is one set forth in the art or which can be established by a declaration, not one that can be developed in light of the present disclosure.

The explanation of the rejection argues (page 4, line 14) that "It would have been

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obvious to one skilled in the art to provide an arrangement of detector subelements such as disclosed in Watanabe to the device of Jackson for the purpose of improving detector resolution." No location in either reference for such a teaching is cited, and in fact there is none. No other evidentiary basis for this statement is provided.

Second requirement--there must be
an expectation of success

The second of the requirements of MPEP 2142 is an expectation of success. There is no expectation of success. This requirement has not been addressed in the explanation of the rejection, and in any event more than Examiner's argument is required here.

As stated in MPEP 2142, "The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. [citations omitted]."

Third requirement--the prior art
must teach the claim limitations

The third of the requirements of MPEP 2142 is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." In this regard, the following principle of law applies to all sec. 103 rejections. MPEP 2143.03 provides "To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In *re* Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In *re* Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the applied

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prior art references clearly do not arguably teach some limitations of the claims.

Neither of the references teaches the limitations of parent claim 13 discussed in relation to the Ground 1 rejection, which discussion is incorporated here.

Ground 4. Claim 21 is rejected under 35 USC 103 over Jackson '366 in view of Vock 173. Applicant traverses this ground of rejection.

The statement of the Ground 4 rejection involves the Jackson and Vock references. Vock is not mentioned in the explanation of the rejection. Instead, the explanation of the Ground 4 rejection (paragraph bridging pages 4-5 of Office Action) discusses Watanabe at length. Watanabe is not included in the statement of the rejection. Applicant asks that the Examiner reconsider this Ground 4 rejection, and clarify whether the rejection is meant to be based upon Vock or Watanabe. If it is to be based upon Jackson and Vock, Applicant asks that the explanation of the rejection be corrected to discuss Vock rather than Watanabe. If it is to be based upon Jackson and Watanabe, Applicant asks that the explanation of the rejection be corrected to state Jackson and Watanabe. In view of this confusion introduced into the prosecution by the noncorrespondence of the statement of the rejection and the explanation of the rejection, Applicant asks that the corrected Office Action be nonfinal.

As it must, Applicant will address the rejection as stated, Jackson in view of Vock.

Applicant incorporates from the discussion of Ground 3 the legal requirements for a sec. 103 rejection.

First requirement--there must be an objective basis for combining the teachings of the references

There is stated in the explanation of the rejection no basis for combining the teachings of the Jackson and Vock references. Nor is there any such basis.

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Second requirement—there must be
an expectation of success

This requirement is not addressed in the explanation of the rejection. Applicant incorporates its prior discussion of this requirement.

Third requirement—the prior art
must teach the claim limitations

Neither of the references teach the limitations of parent claim 12, as discussed in relation to the Ground 1 rejection, which discussion is incorporated here. Neither of the references teach the additional limitations of claim 21.

Applicant respectfully requests that the Examiner reconsider and withdraw the rejections, and all the application to issue.

Respectfully submitted,



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